UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,597	05/24/2002	Wolfgang Dultz		5232

26646 7590 12/28/2007

KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER	
PHAN, HANH	

ART UNIT	PAPER NUMBER
2613	

MAIL DATE	DELIVERY MODE
12/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/890,597	DULTZ ET AL.	
	Examiner	Art Unit	
	Hanh Phan	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 09/28/2007.

2. In Claim 20, lines 1 and 2, the phrase "the analyzer is a linear analyzer" should be changed to -- the analyzer is a linear polarizer--.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 13-15, 17, 18, 20 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas et al (US Patent No. 5,311,346) in view of Robinson et al (US Patent No. 6,404,520) **OR** Favin et al (US Patent No. 5,371,597) **OR** Cao (US Patent No. 6,130,766).

Regarding claims 13 and 17, referring to Figures 1 and 2, Haas discloses a method for reducing distortion of an optical pulse contained in a communication-transmitting luminous flux in an optical communication system caused by polarization mode dispersion, comprising:

driving a polarization-controlling device to adjust a polarization of the optical pulse so that a transmission quality of the optical communication system is maximized, wherein the driving of the polarization-controlling device functions in response to the

transmission quality detected (i.e., in the Fig. 1, a control circuit 30 driving a polarization controlling device 32 response to the transmission quality detected, col. 3, lines 32-67 and col. 4, lines 1-63).

Haas differs from claims 13 and 17 in that he fails to teach using a small, coupled-out portion of the communication-transmitting luminous flux to determine the transmission quality of the optical communication system. Robinson et al, from the same field of endeavor, likewise teaches an polarization mode dispersion compensator (Figure 3). Robinson et al further teaches using a small, coupled-out portion of the communication-transmitting luminous flux to determine the transmission quality of the optical communication system (i.e., Fig. 3, from col. 4, line 44 to col. 9, line 67) **OR** Favin et al, from the same field of endeavor, likewise teaches an polarization mode dispersion compensator (Figure 1). Favin et al further teaches using a small, coupled-out portion of the communication-transmitting luminous flux to determine the transmission quality of the optical communication system (i.e., Fig. 1, col. 4, lines 18-67, col. 5, lines 1-67 and col. 6, lines 1-30) **OR** Cao, from the same field of endeavor, likewise teaches an polarization mode dispersion compensator (Figures 1 and 2). Cao further teaches using a small, coupled-out portion of the communication-transmitting luminous flux to determine the transmission quality of the optical communication system (i.e., Figs. 1 and 2, from col. 4, line 64 to col. 9, line 26). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the using a small, coupled-out portion of the communication-transmitting luminous flux to determine the transmission quality of the optical

communication system as taught by Robinson et al **OR** Favin et al **OR** Cao in the system of Haas. One of ordinary skill in the art would have been motivated to do this since allowing compensating the dispersion of the signal and to reduce the distortion of the signal and improving the quality of the signal.

Regarding claims 14 and 25, the combination of Hass and Robinson et al OR Favin et al OR Cao teaches resetting the polarization of the optical pulse in predefined time intervals for optimizing communication (i.e., Fig. 1 of Hass, col. 3, lines 32-67 and col. 4, lines 1-63 and Fig. 3 of Robinson et al, from col. 4, line 44 to col. 9, line 67).

Regarding claims 15 and 18, the combination of Hass and Robinson et al OR Favin et al OR Cao teaches wherein the polarization of the optical pulse is controlled at an input end of the optical communication system (Fig. 1, col. 3, lines 32-67 and col. 4, lines 1-63 and Fig. 3 of Robinson et al, from col. 4, line 44 to col. 9, line 67).

Regarding claim 20, the combination of Hass and Robinson et al OR Favin et al OR Cao teaches the polarization-controlling device includes a first $\lambda/4$ delay element, a $\lambda/2$ delay element and a second $\lambda/4$ delay element, the first $\lambda/4$, $\lambda/2$ and second $\lambda/4$ delay elements being disposed in series as $\lambda/4$-$\lambda/2$-$\lambda/4$ and being adjustable (i.e., Fig. 1 of Haas, col. 4, lines 8-35 and Figs. 1 and 2 of Cao, from col. 4, line 64 to col. 9, line 26).

5. Claims 16, 19 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas et al (US Patent No. 5,311,346) in view of Robinson et al (US Patent No. 6,404,520) **OR** Favin et al (US Patent No. 5,371,597) **OR** Cao (US Patent

No. 6,130,766) further in view of Wiech et al, "Optical Signal-to-noise Ratio Measurement in WDM Networks Using Polarization extinction", September 20-24 1998, Marid, Spain, Vol. 1, Pages 549-550).

Regarding claims 16, 19 and 21, the combination of Hass and Robinson et al OR Favin et al OR Cao differs from claims 16 in that it fails to teach an analyzer. However, Wiech et al teaches an analyzer (i.e., a linear polarizer POL in Fig. 2 and see page 549). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the analyzer as taught by Wiech et al in the system of the combination of Haas and Robinson et al **OR** Favin et al **OR** Cao. One of ordinary skill in the art would have been motivated to do this since allowing compensating the dispersion of the signal and to reduce the distortion of the signal and improving the quality of the signal.

Regarding claim 21, the combination of Hass, Robinson et al OR Favin et al OR Cao and Wiech et al teaches the analyzer is a linear analyzer, and the polarzation-controlling device includes at least an adjustable $\lambda/4$ delay element and an adjustable $\lambda/2$ delay element (i.e., Fig. 1 of Haas, col. 4, lines 8-35 and Figs. 1 and 2 of Cao, from col. 4, line 64 to col. 9, line 26).

Regarding claims 22 and 23, the combination of Hass, Robinson et al OR Favin et al OR Cao and Wiech et al teaches wherein at least one delay element includes a liquid crystal element or an electro-optical crystal (i.e., Fig. 1 of Haas, col. 4, lines 8-35 and Figs. 1 and 2 of Cao, from col. 4, line 64 to col. 9, line 26).

Regarding claim 24, the combination of Hass, Robinson et al OR Favin et al OR Cao and Wiech et al teaches at least one delay element includes at least one of a mechanically adjustable element, an electromotively adjustable element and a piezoelectrically adjustable element of three fiber loops (i.e., Fig. 1 of Haas, col. 4, lines 8-35 and Figs. 1 and 2 of Cao, from col. 4, line 64 to col. 9, line 26).

Response to Arguments

6. Applicant's arguments with respect to claims 13-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

HANH PHAN
PRIMARY EXAMINER